August 7, 1981

MEMORANDUM

TO: Philip Morris/Barclay Files

FROM: Hadrian R. Katz

RE: August 6, 1981 Richmond Meetings

I spent Thursday in Richmond meeting with Professor Gerald Cook and scientists at the Philip Morris Research Center to perform various tests of the puff parameter analyzer. The apparatus operated extremely well, and Cook was impressed with the consistency and reliability of the data achieved. Essentially all of the tests suggested by Cook were conducted, except those dealing with the pressure drop in a smoker's mouth during a typical puff. Philip Morris has never conducted tests in that area, and they would have no direct relevance to the validity of the PPA as a dilution measurement instrument. Cook is to revise his draft analysis to incorporate the data generated in Richmond, and we shall then suggest revisions in the language of the text.

During the day I also met with Cliff Lilly, Warren Claflin and Peter Martin to discuss other tests being considered in connection with Barclay:

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1. Barclay with porous plug wrap. The simulated Barclay cigarettes have now been produced. There are three batches (non-porous plug wrap, semi-porous plug wrap, and extremely porous plug wrap) of 4,000 cigarettes each. The plan is to take photographs of smoke flow patterns, measure tar deliveries, and test dilution on the PPA both with and without plastic mouthpieces, of the non-porous cigarettes and whichever of the porous cigarettes gives better results. I noted that it is possible that either the Commission or other companies may be interested in running its own tests on these cigarettes, so that they should be prepared to produce them in quantity.

2. CO Study. I was shown preliminary data for a newly designed test to measure directly the CO delivery of Barclay and other cigarettes. The charts are attached. Blindfolded subjects take a puff of a cigarette, following which 35 cc. of smoke are extracted through a narrow tube in the side of the mouth. One cc. is selected for analysis, and CO levels are measured. The charts show as expected that the CO delivery of a Barclay cigarette smoked by a human smoker looks like that of a Merit or Marlboro cigarette, and the CO delivery of a Barclay cigarette

smoked in a smoking machine looks like that of a Cambridge cigarette. It should be possible to test not only CO, but other chemical constituents of smoke as well.

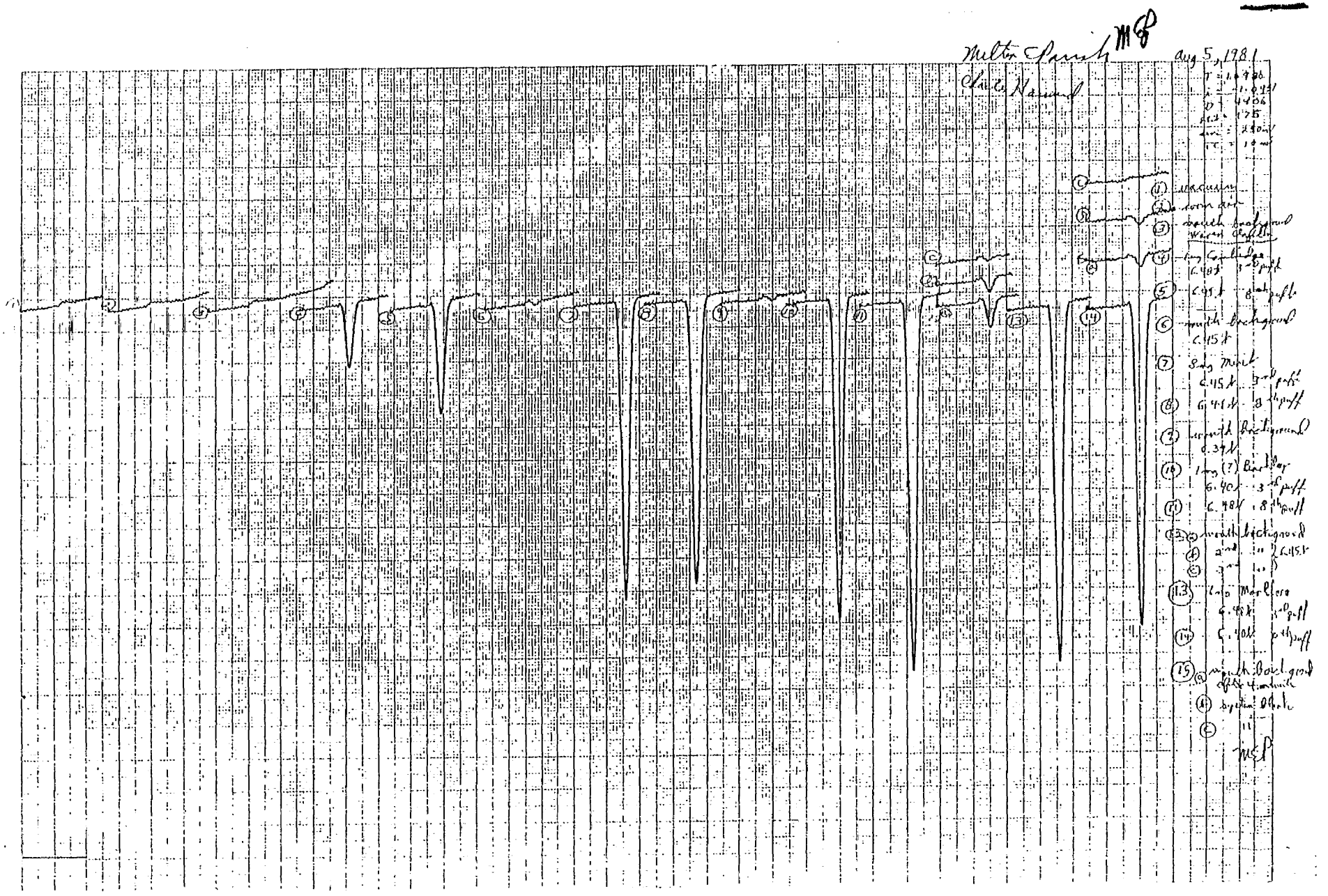
3. Extended filter tests. This is the test to determine whether the PPA affects the way smokers hold cigarettes in their lips by using extra-long Barclay-type filters that extend a full 15 mm. from the dilution holes. The data look extremely good, and are in almost final form. I told Lilly to give this study second priority after the study of the porous plug-wrapped Barclay.

4. Infrascope. The temperature measuring apparatus is now on line, and initial observations will be made to determine whether it is possible to observe the difference in coal temperature of Barclay cigarettes smoked in the lips and in a mouthpiece.

5. Puff count. It was noted that increasing dilution will tend to increase cigarette puff count. We discussed the possibility of counting the number of puffs smokers are able to take on a Barclay cigarette smoked in reasonably natural conditions either in the lips or in a mouthpiece.

6. Deformation testing. Apparently Tom Ahrensfeld is still very interested in the question of whether the reduction in Barclay dilution is caused by occlusion or by transient deformation of the channels. Lilly and Claflin have devised a test for looking at this, and are beginning to think that there may in fact be some deformation of the channels. Everyone understands that this is of more academic than practical consequence, and it is being given lowest priority.

cc: Abe Krash
Jerome I. Chapman



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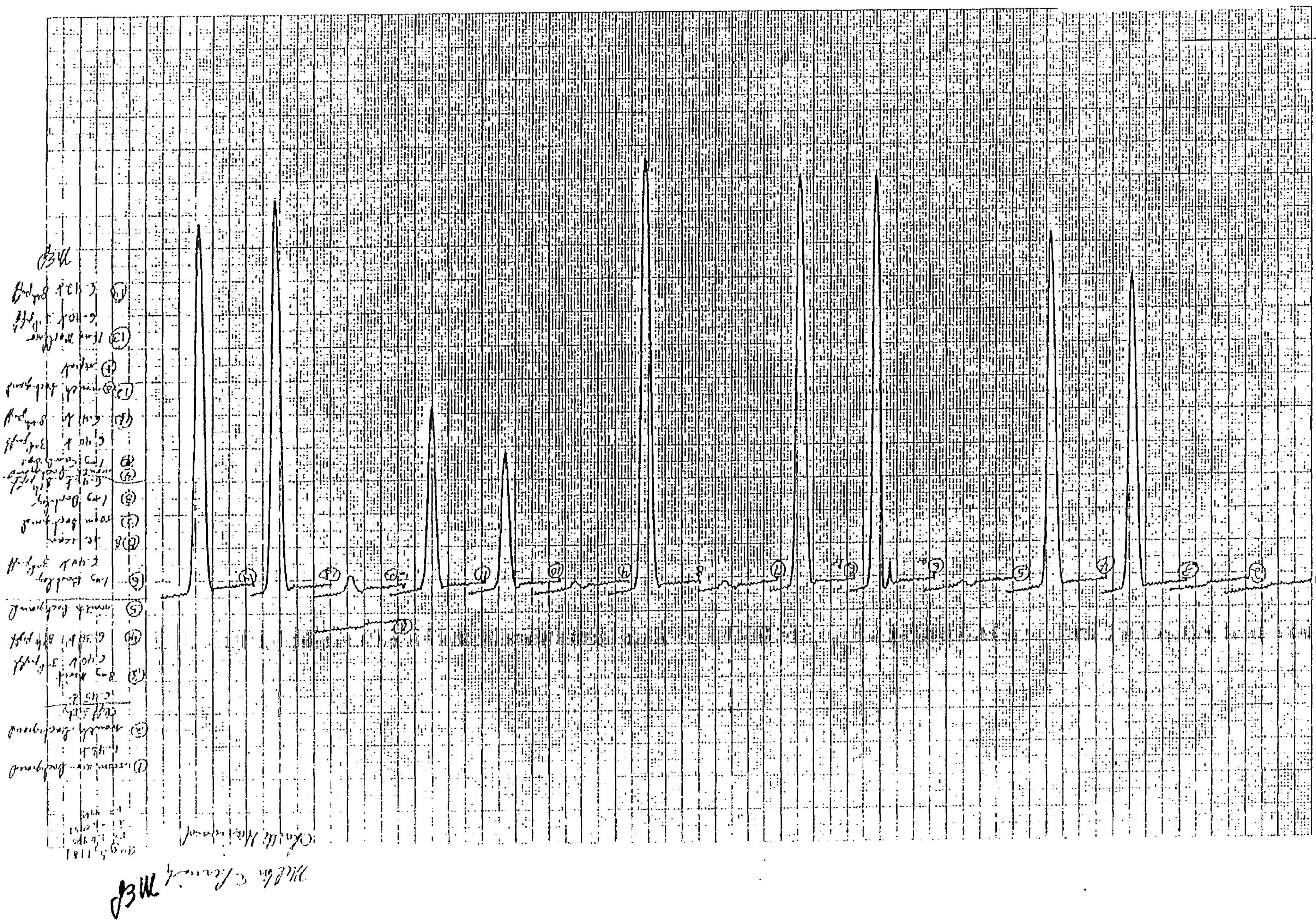

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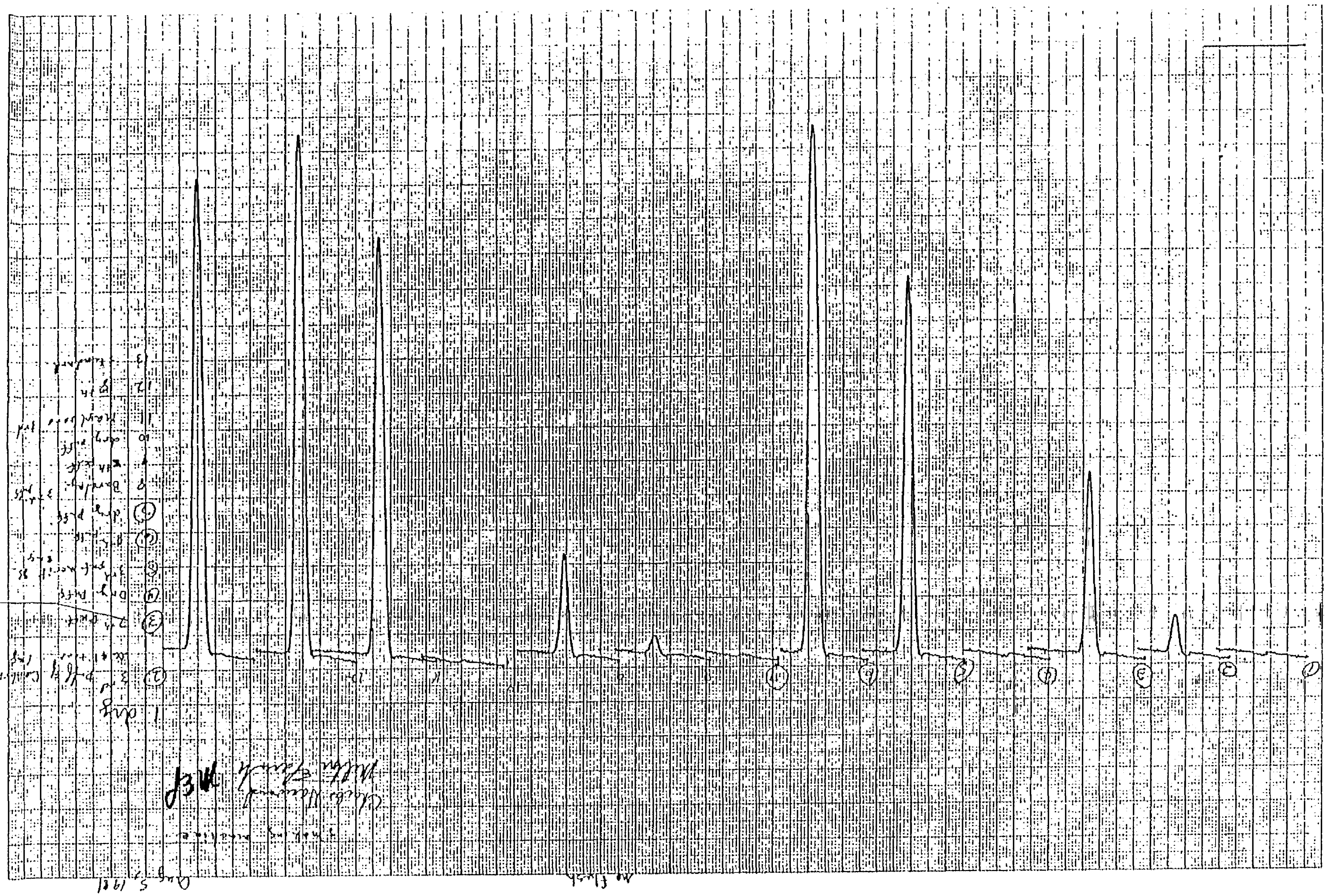

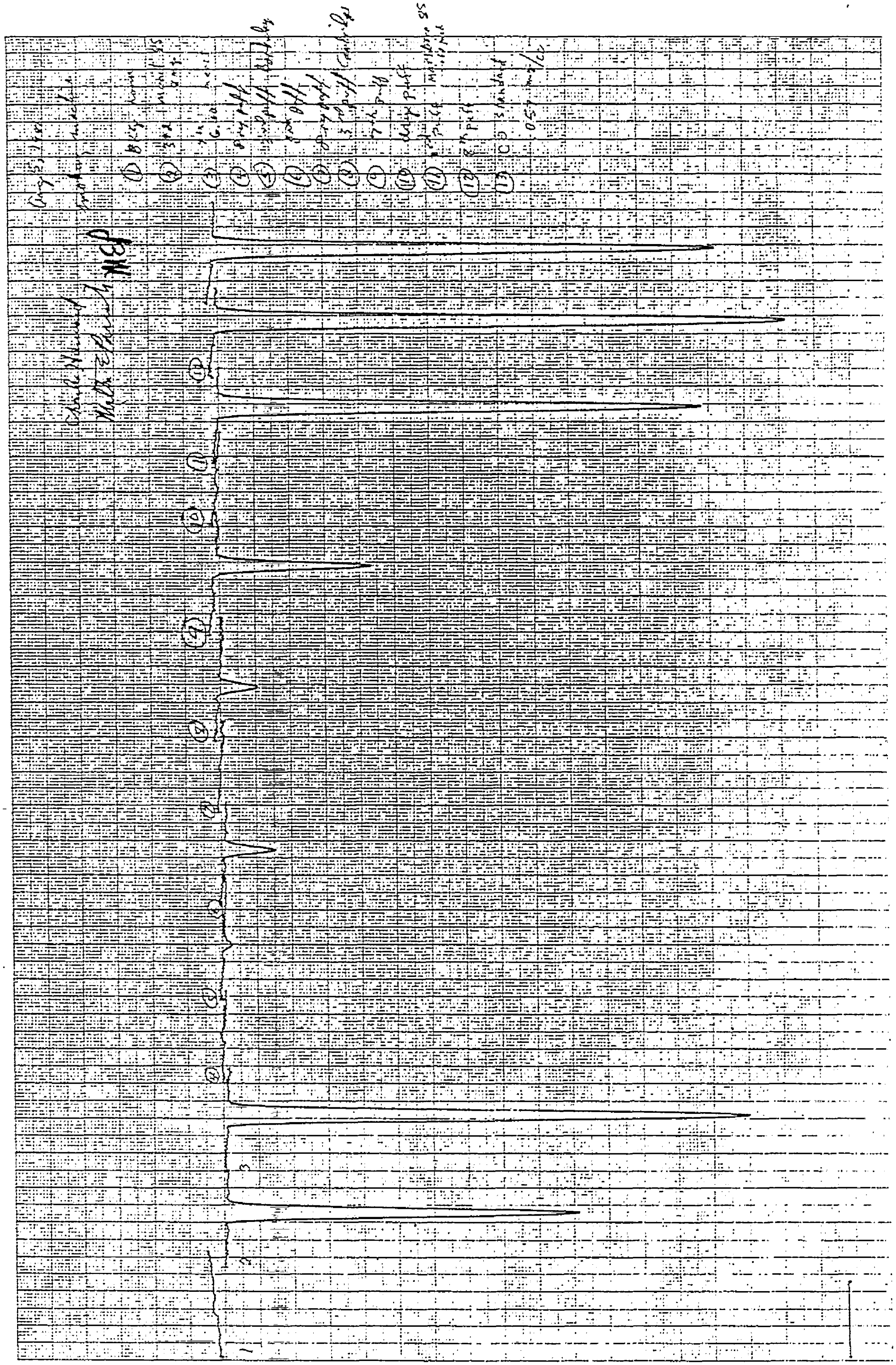

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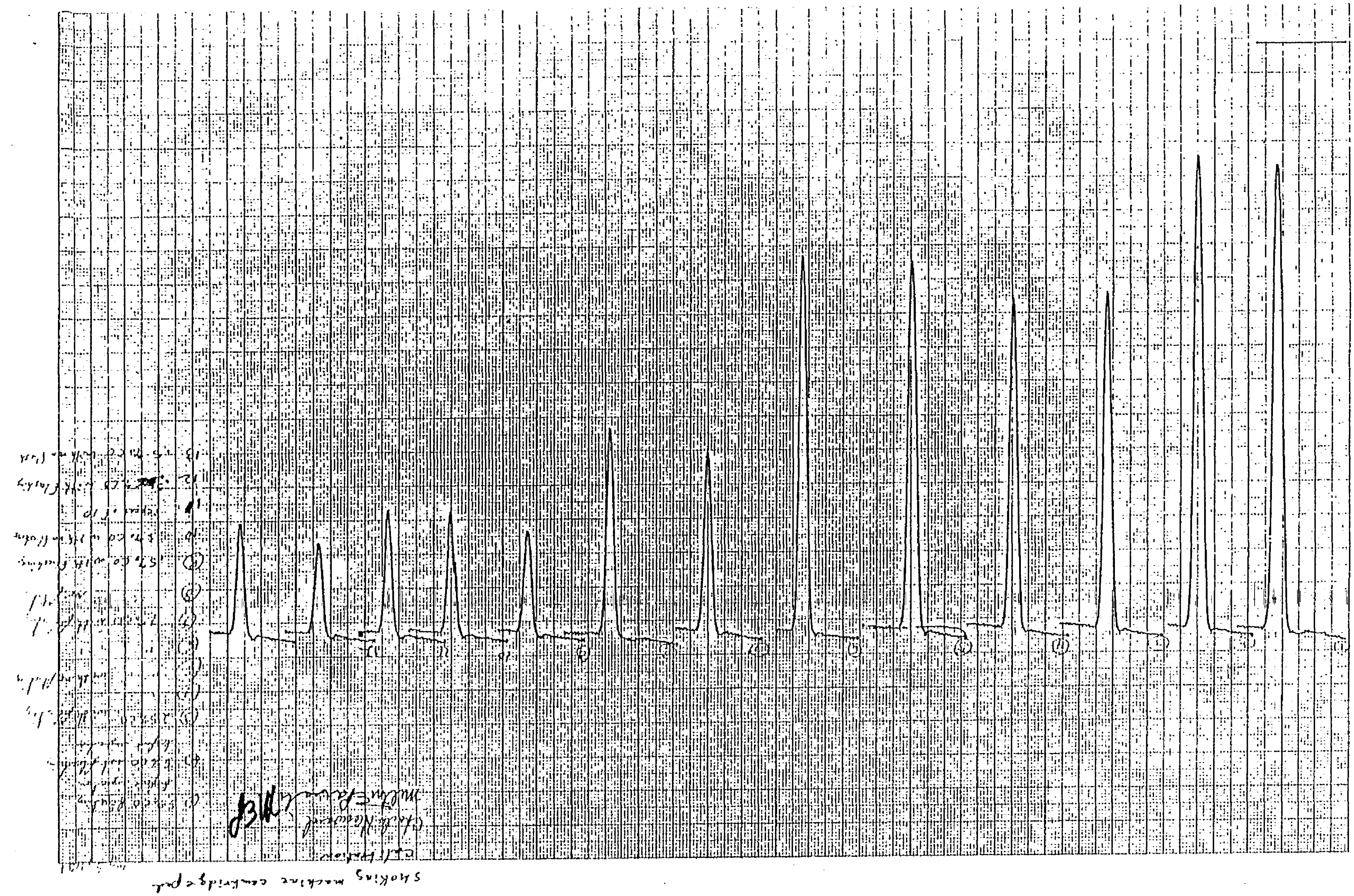

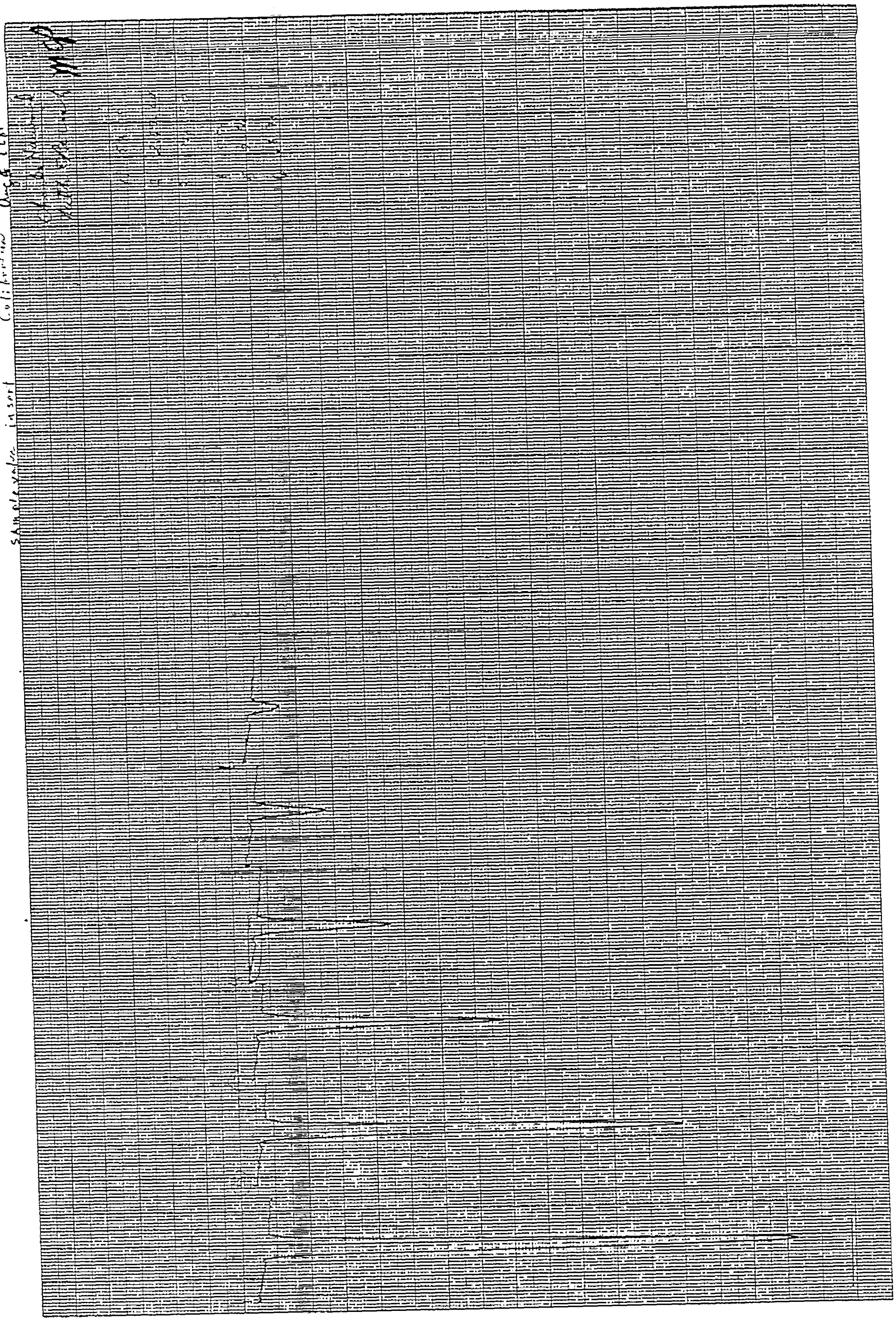

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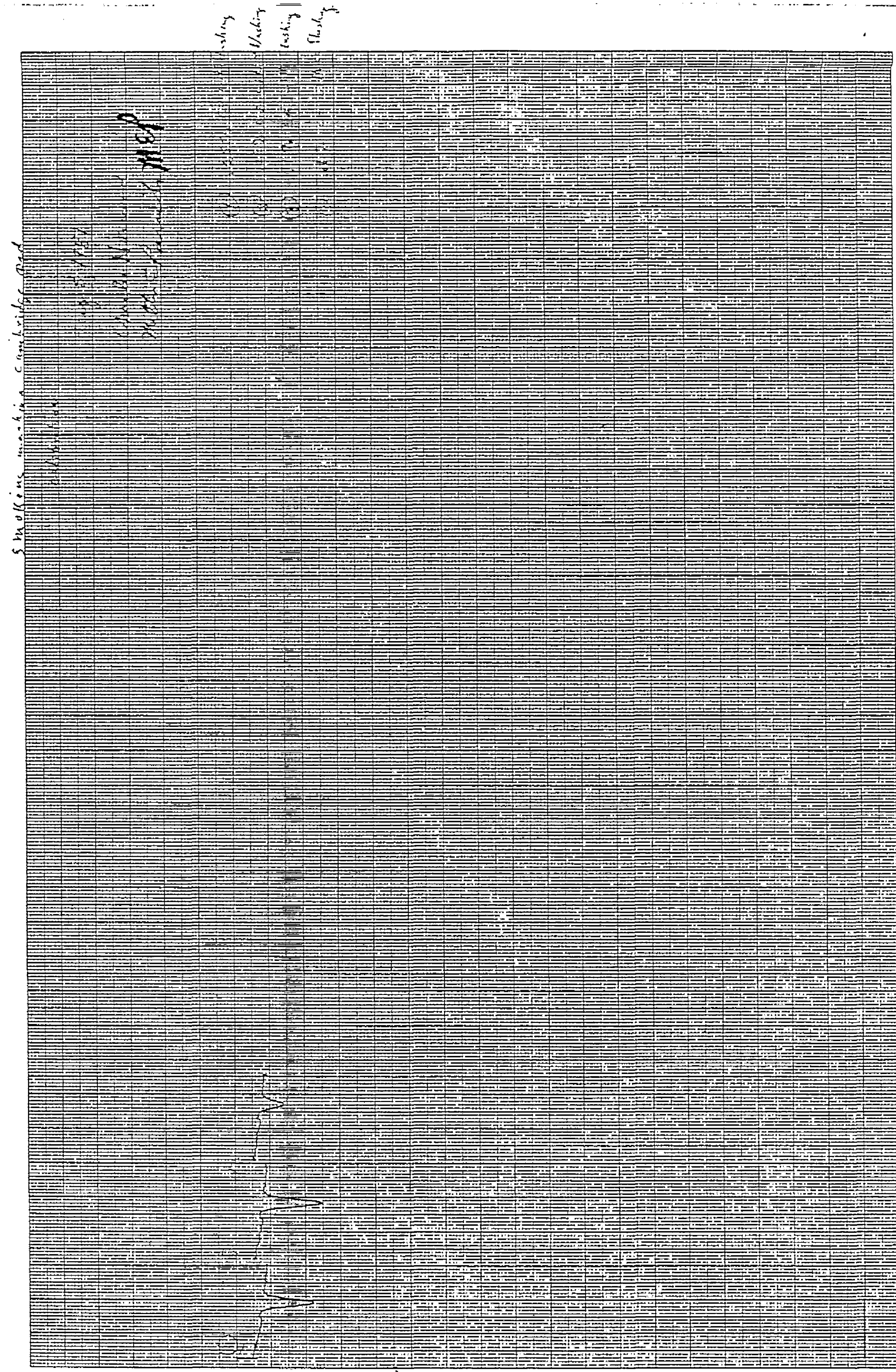

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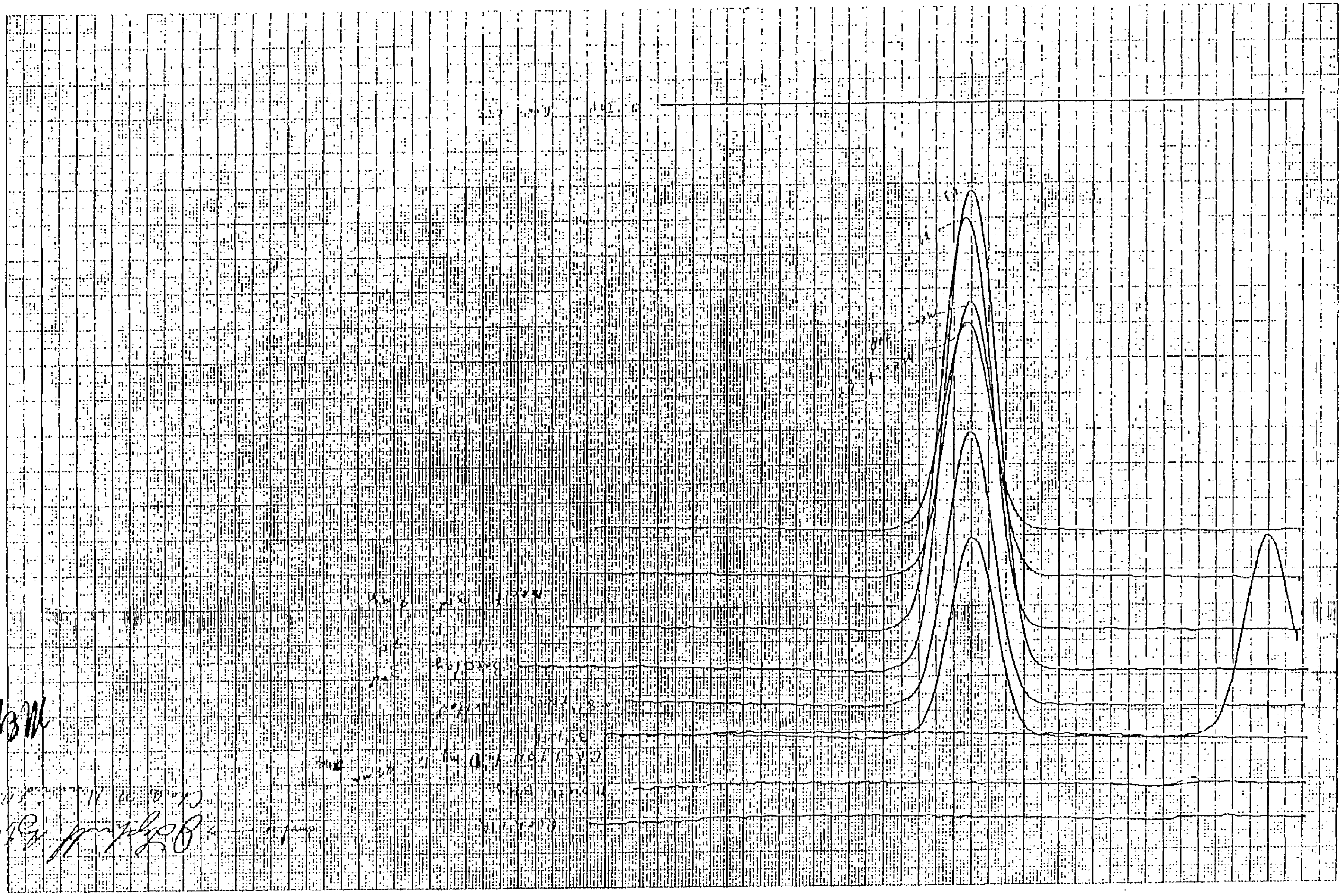

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